NORTH ATLANTIC LANDSCAPE CONSERVATION COOPERATIVE GRANT
2014 PROGRESS REPORT

Quarter: (circle one)   2014 1st 2014 2nd 2014 3rd 2014 4th

Grant Program, Number and Title: Priority Science Grant Program, NALCC 2013-03
Conserving Important Habitat for Amphibians and Other Wildlife: Compilation of Vernal Pool Mapping Efforts across the North Atlantic Region.

Organization: Vermont Center for Ecostudies

Project Leader: Steve Faccio

Abstract: Please provide a short (1-2 paragraphs) abstract that addresses EACH of the following: the objectives of your project, accomplishments to date, future plans and timelines with an estimate for when the project will be completed.

This project has four primary objectives: 1) compile a comprehensive database of vernal pool locations; 2) describe the vernal pool mapping and verification approaches currently being employed in the region; 3) develop a remote sensing method using LiDAR to efficiently identify potential vernal pool locations; and 4) prioritize areas for future vernal pool mapping.

During the fourth quarter, we hosted a full-day workshop in Smyrna, DE to introduce the VPDC to potential cooperators in the Mid-Atlantic region and provide a forum for their participation in its development. This very productive meeting drew 24 participants from 6 Mid-Atlantic States, plus Washington, DC, who provided rich input on data management, framework development, and model refinement. As in the previous workshop, we found a great deal of interest in adopting/customizing the spatial modeling rule set for areas outside of the pilot regions and for sustaining the cooperative beyond the project period to accommodate vernal pool mapping initiatives that are in their early stages. Nine agencies/organizations expressed interest in some level of participation in data sharing and we received several leads for recruiting other data sets. Questions and feedback revealed considerable interest in using VPDC products to launch/focus future vernal pool mapping efforts, particularly in Maryland and on public lands in Fairfax County, VA. A 2-hour field trip provided valuable insight regarding coastal intermittent ponds/Carolina Bays, which will be helpful as we continue to work on modeling rule-sets for mapping potential vernal pools in coastal areas of the New Jersey pilot region.

We developed draft maps of potential vernal pools using LiDAR for the project's two modeling test sites, Addison County, Vermont and Cumberland County, New Jersey, and solicited input from our steering committee on the content and appearance of the maps.

Future plans include refinement of rule sets for identifying vernal pools remotely for two different bioregions (central VT and southern NJ). We will also begin to request vernal pool datasets from our growing list of cooperators in order to begin populating the database.

Were planned goals/objectives achieved last quarter?

Yes (see planned and accomplished goals/objectives in matrix below).

Progress Achieved: (For each Goal/Objective, list Planned and Actual Accomplishments)

Goal/Objective	Planned	Accomplished by 31 Dec.
Goal 1 - Compile a comprehensive dataset of vernal pool locations in the NALCC region, including potential and verified pools.		
Assemble project steering committee and hold first conference call	X	X
Plan and host regional workshop at NE Natural History Conference	X	X
Present oral paper at NEAFWA Conference	X	X
Build database to archive geospatial and associated attribute data	X	
Build a metadata library	X	X
Host workshop at NEPARC meeting (western NY)	X	X
Receive and archive data into database; proof and complete metadata	X	
Host regional workshop in mid-Atlantic region	X	X
Provide vernal pool data to NALCC	X	
Goal 2 – Compile and describe the various mapping and certification approaches currently being employed in the region		
Identify and review all coordinated mapping projects	X	
Prepare review document	X	
Goal 3 – Develop a method to identify potential vernal pools using Light Detection and Ranging (LiDAR) technology and object-based image analysis (OBIA)		
Compile vernal pool and LiDAR data for NJ and VT	X	X
Conduct preprocessing of LiDAR and other (NHD) data and imagery	X	X
Define characteristics of vernal pools in LiDAR	X	X
Prototype OBIA expert system	X	X
OBIA system development	X	
Evaluation and Accuracy Assessment	X	
Reporting	X	

Difficulties Encountered:

NA

Activities Anticipated Next Quarter:

1) Incorporate feedback from workshops and meetings into planning and development of VPDC
2) Complete database and solicit vernal pool data from cooperators.
3) Continue identification and review of all coordinated mapping projects
4) Refine rule sets for identifying vernal pools remotely using LiDAR
5) Update steering committee on progress and seek feedback

Expected End Date:

December 2015

<u>Costs</u>:

Total life to date expenses (include this quarter): $57,756.19

Total Approved Budgeted Funds: $100,000

Are you within the approved budget plan and categories? Yes

Signature:

Date: January 14, 2015